

and weighted summation or subtraction. The offset still contained in the individual measurement phases can be reduced still further or the offset voltages during a revolution should roughly cancel one another out, so that the parts of the Hall signal which really depend on the magnetic field are retained.

In the Claims:

Please amend Claims 1-2 and 8-9 as follows and please delete, without prejudice, claims 3-7. In particular, please substitute the below claims for the indicated pending claims with the same number.

1. (Once Amended) A Hall sensor array comprising:

a first and at least one additional pair of hall sensor elements,

wherein each hall sensor element has four terminals of which two act as power supply terminals for supplying an operating current and two terminals act as measurement terminals for measuring a Hall voltage,

wherein the Hall sensor elements are so arranged that the current directions of the operating current in the two Hall sensor elements of each pair are offset at an angle of approximately 90° to one another,

wherein the Hall sensor elements of the additional pair(s) are so arranged that their current directions of the operating current are offset at an angle of approximately $90^\circ/n$ to the current directions of the operating current of the first pair of Hall sensor elements, n being the total number of Hall sensor element pairs, and

wherein respective first terminals of the measurement terminals of the Hall sensor elements and respective second terminals of the measurement terminals of the Hall sensor elements are connected together for measurement of the Hall voltage,

wherein the Hall sensor array also has switches and wherein the respective terminals of the Hall sensor elements are connected to the switches, so that the respective first and second supply terminals for supplying an operating current and the respective first and second measurement terminals for measuring a Hall voltage can be switched over from one measurement to a subsequent measurement in such a way that the current directions of the

operating current in the Hall sensor elements and the Hall voltage tapping directions can be rotated through approximately 90° from one measurement to a subsequent measurement,

wherein the Hall sensor array also has a controller by means of which the switches are controllable in such a way that the Hall sensor array is operable in spinning current operation for generating a Hall signal and wherein the offset voltages of the Hall sensor elements approximately cancel one another out in a revolution so that the Hall signal contributions which actually depend on the magnetic field remain, and

wherein first supply terminals of each Hall sensor element are connected together and to a first terminal of a common voltage source and respective second supply terminals of each Hall sensor element are connected together and to the second terminal of the common voltage source so that the common voltage source supplies an operating current for the Hall sensor elements.

2. (Once Amended) Hall sensor array according to claim 1, wherein the first supply terminals are connected together electrically by being interwired, the second supply terminals are connected together electrically by being interwired, the first measurement terminals are connected together electrically by being interwired and the second measurement terminals are connected together electrically by being interwired.

8. (Once Amended) Hall sensor array according to claim 1, wherein the Hall sensor elements of a pair are geometrically identical.

9. (Once Amended) Hall sensor array according to claim 1, wherein the Hall sensor elements of different pairs are geometrically different.

In the Abstract:

Please delete the current paragraph in the Abstract section, and substitute therefor the below paragraph so that the Abstract to reads as follows:

ABSTRACT

A Hall sensor array for offset-compensated magnetic field measurement comprises a first and at least one additional pair of Hall sensor elements. Each Hall sensor element has four terminals, of which two act as power supply terminals for supplying an operating current and two act as measurement terminals for measuring a Hall voltage. Respective first supply